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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,097	09/27/2004	Tatsuo Ito	2004-1513A	1274

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EXAMINER

GUPTA, PARUL H

ART UNIT	PAPER NUMBER
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2656

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/509,097

Applicant(s)

ITO ET AL.

Examiner

Parul Gupta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 9-16 are pending for examination as interpreted by the examiner. The IDS filed on 11/10/04 was considered.

Specification

2. The abstract of the disclosure is objected to because it is too long. Abstracts must be under 150 words in length. Correction is required. See MPEP § 608.01(b).

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

One example of a minor typographical error that was noticed was the spelling mistake on the second to last line of page four where "undetectable" was misspelled.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 9, 10, 13, 14, 15, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ando et al., US Patent Publication 2002/0060958.

Regarding claim 9, Ando et al. teaches in figure 6 an optical head device comprising: a light source (10); focusing means (50) which focuses light from the light source onto a desired data layer of an optical recording medium having multiple data

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layers (100); wavefront converting means (50, 52, 54) provided between the light source and the focusing means; aberration detecting means (photodetector 90, explained in paragraph 0231 or element 900 in figure 10) which detects an aberration amount of a spot of the focus light on the desired data layer; and output controlling means (20A) which controls output of the light source, wherein the wavefront converting means is driven in such a manner as to reduce the aberration amount detected by the aberration detecting means (explanation given in paragraphs 0043 and 0072), and the output controlling means (20A) holds learned data as to a relation between a driving amount to be inputted to the wavefront converting means and the output of the light source (paragraph 0233), and controls the output of the light source based on the driving amount to be inputted to the wavefront converting means and the learned data (paragraph 0391), the driving amount being changed depending on the aberration of the focus light spot (paragraph 0413).

Regarding claim 10, Ando et al. teaches in paragraphs 0396 and 0413 the optical head device according to claim 9, further comprising driving amount detecting means (subtractor 255 of figure 7) which detects the driving amount to be inputted to the wavefront converting means (elements 50, 52, and 54 of figure 6), wherein the output controlling means (element 20A of figure 6) controls the output of the light source based on the driving amount detected by the driving amount detecting means. Element 20A is a hologram that splits the beam as necessary.

Regarding claim 13, Ando et al. teaches in figure 6 the optical head device according to claim 9, wherein the wavefront converting means includes a plurality of

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lenses (elements 50 and 52), and lens driving means (54) which drives one of the plurality of lenses to change a distance between the one lens and the other one of the plurality of lenses (paragraph 0366), and the lens driving means is driven in such a manner as to reduce the aberration amount detected by the aberration detecting means (paragraph 0171).

Regarding claim 14, Ando et al. teaches in paragraphs 0377 and 0378 the optical head device according to claim 9, wherein the output controlling means controls the output of the light source based on the driving amount and the learned data so as to compensate for a spherical aberration of the order higher than a highest order of aberration compensatable by the wavefront converting means.

Regarding claim 15, Ando et al. teaches an optical recording device comprising: the optical head device of claim 9; and rotation driving means which rotates the optical recording medium (paragraph 0629). The section describes the rotation of the medium, meaning that rotation driving means is inherent.

Regarding claim 16, Ando et al. teaches an optical recording method for recording information on an optical recording medium having multiple data layers (element 100 of figure 6) with use of a focus light spot emitted from a light source, the method comprising the steps of: learning in advance a relation between a driving amount by which wavefront converting means is to be operated so as to reduce an aberration of the focus light spot, and an output of the light source (paragraph 0373); detecting the aberration of the focus light spot (paragraphs 0379 and 0381); driving the wavefront converting means so as to reduce the aberration (paragraphs 0171 and

0469-0470); and controlling the output of the light source based on the driving amount of the wavefront converting means (paragraph 0396).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al. as applied to claim 9 above, and further in view of Itou, US Patent Publication 2002/0024736.

Ando et al. teaches all of the limitations of claim 9.

Ando et al. does not teach the limitations of claim 11.

Itou teaches in paragraphs 0027 and 0028 the optical head device, wherein the output controlling means controls the output of the light source (optical wavelength) based on the product of a direct current component and an alternate current component of the driving amount to be inputted to the wavefront converting means.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of controlling the light source based on the product of current components as taught by Itou into the system of Ando et al. This method would be useful to control accurately despite interruptions of the signal or changes in frequency (paragraph 0005; Itou) or even changes in the intensity of the signal (second half of paragraph 0028; Itou).

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6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al. as applied to claim 9 above, and further in view of Yoshida, US Patent 6,381,074.

Ando et al. teaches all of the limitations of claim 9.

Ando et al. does not teach the limitations of claim 12.

Yoshida teaches the optical head device according to claim 9, wherein the wavefront converting means is a liquid crystal device (column 12, lines 33-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of a liquid crystal device in the wavefront converting means as taught by Yoshida into the system of Ando et al. in order to create a lens that is capable of freely changing power or configuration (column 12, lines 35-39; Yoshida).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Taneya et al., US Patent 5,657,307, discloses most of the same information as the applicant, including the same type of wavefront converting means (lens 1209).

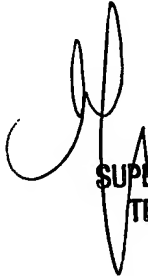
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 8:30 AM to 7 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PHG


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12/27/05